CPRO-3D42S

4 by 2 HDMI Switcher with HEAC

Operation Manual

CPRO-3D42S

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Safety Precautions

Please read all instructions before attempting to unpack or install or operate this equipment, and before connecting the power supply. Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through module openings or empty slots, as you may damage parts.
- Do not attach the power supply cabling to building surfaces.
- Do not allow anything to rest on the power cabling or allow it to be abused by persons walking on it.
- To protect the equipment from overheating, do not block the slots and openings in the module housing that provide ventilation.

Revision History

Version No	Date	Summary of Change
VR0	20110621	Preliminary Release
VR1	20110720	Power Button

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1. Introduction

This is a high performance four input & two outputs HDMI™ Switcher supports, the output ports support Audio Return Channel (ARC) and HDMI Ethernet Channel (HEC) follow by HDMI v1.4 specification. The ARC provides an S/PDIF link from and HDMITM sink and output through ARC port to AVR to get true audio from the sink. The HEC feature adds a connection to the HDMI link that is capable of carrying the same data as a full duplex, 100Mbps Ethernet connection. Using an HDMI with HEAC cable allowing for convenient integration of Digital Televisions (DTVs) into the end user's home network system.

2. Applications

- Simultaneous display one HDMI source on 2 TVs
- Professional audio display
- Showroom display
- Education demo
- Commercial usage

3. Package Contents

- 4 x 2 HDMI Switcher with HEAC
- 5V/2.6A DC power supply adaptor
- Operation Manual

4. System Requirements

- Source equipments with HDMI output connector(s)
- Displays TV/monitor with HDMI input connector(s)
- Two output ports can be connect to the Ethernet Channel (HEC) of Digital Televisions (DTVs) from end user's home network system and Audio Return Channel (ARC) can output to the AVR to get true audio from the sink.

5. Features

- Support multiplexed HDMI 4-input and 2-output
- Two output ports support Ethernet Channel (HEC) and Audio Return Channel (ARC) follow by HDMI v1.4 specification
- HDMI 1.4 support:
  - √ Audio Return Channel (ARC)
  - √ 3D
  - √ CEC
  - √ HDMI Ethernet Channel (HEC), enabling high-speed, bi-directional networking at up to 100Mb/sec
- Deep Color support 36/30/24-bit, 1080p@60Hz
- EDID can selected Standard, TV or Lock EDID feature
- Audio support:
  - √ HDMI 1.4 compatible audio interface
  - √ Dedicated, flexible audio input/output port
  - √ Dolby TrueHD
  - √ DTS-HD Master Audio
  - √ Full audio input and output support

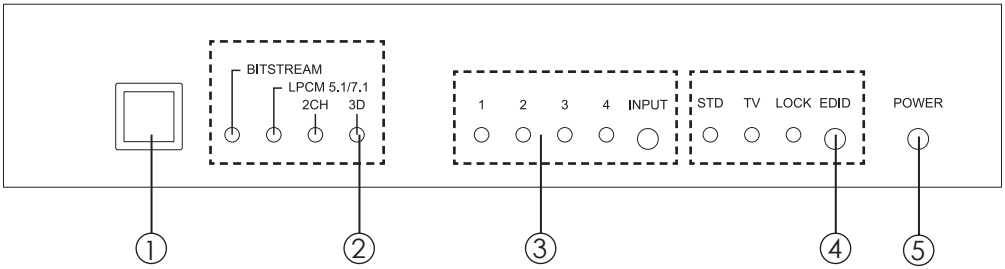
6. Specifications

Frequency Bandwidth	2.25Gbps (single link)
Input Ports	4x HDMI (Female type)
Output Ports	2 x HDMI (Female type) 2 x Ethernet 2 x ARC
Output Resolution	480i ~1080p 50/60, 1080p24, VGA~UXGA
HDMI Cable In	1080p/8bits or 12bits (15M)
HDMI Cable Out	1080p/8bits or 12bits (15M)
ESD Protection	Human Body model: ±8kV (air-gap discharge) ± 4kV (contact discharge)
Power Supply	5V/2.6A DC (US/EU standards, CE/FCC/UL certified)
Dimensions (mm)	240(W) x 113(D) x 49(H)
Weight(g)	810
Chassis Material	Metal
Silkscreen Color	Black
Operating Temperature	0°C ~ 40°C/ 32°F ~104°F
Storage Temperature	-20°C ~ 60°C/ -4°F ~140°F
Relative Humidity	20~90% RH (non-condensing)
Power Consumption	4.2W

7. Operation Controls and Functions

The following sections describe the hardware components of the unit.

7.1 Front Panel



①. IR Remote Control Sensor.

②. Audio/3D content indicator: The system will automatically detect incoming audio/video signal and the Green LEDs will illuminate accordingly.

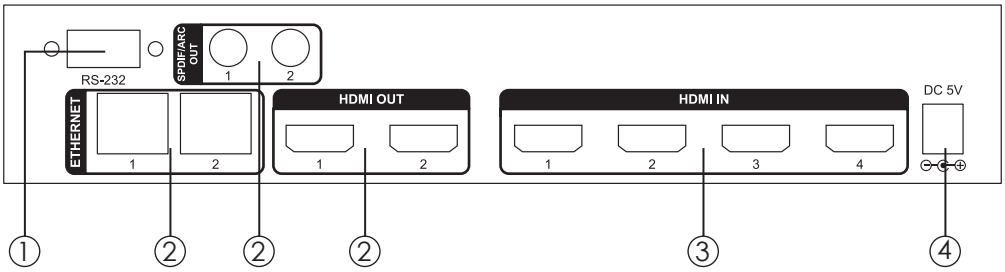
③. Input selection: Press input button to select input source, the Blue LED will illuminate accordingly. When non of the LED is illuminating this means no input is selected, this is to allow the device to access the ARC feature alone.

④. EDID selection: This EDID control button is determined if you are going to use the EDID from the display attached to output 1 or use an onboard EDID the Green LED will illuminate accordingly. When press EDID button longer then 3 seconds, the RED LED will illuminate which means the EDID already lock STD or TV EDID as you selected accordingly. When EDID is set on STD audio will support PCM2CH and video will support

	8	10	12
RGB	✓	✓	✓
Y444	✓	×	×
Y422	✓		
XvYCC	✓	×	×

⑤ Power button: Press this button to switch on the device or press it again to set it to standby mode.

7.2 Rear Panel



①. RS-232: This slot is to connect with a PC or control system with D-Sub 9pin cable for RS-232 control. For detail RS-232 commands please refers to section 9.

②. HDMI 1~2out/ARC 1~2/Ethernet 1~2: Connect Ethernet and Audio Return Channel to capabilities of sink, The HDMI output display will pass the Ethernet and Audio signal via HDMI v1.4 cable to HDMI output port individually, each HDMI will separate the Ethernet and audio and send it out from ARC and Ethernet ports. For ARC, when user had a display with a built-in tuner or DVD player and wanted to send content "upstream" from the TV back to the audio system to play with multi-channel audio.

The HDMI Ethernet Channel, it can consolidates video, audio and data streams into a single HDMI cable to the Ethernet Hub/AP to access the internet and it incorporates a dedicated data channel into the HDMI link, enabling high-speed, bi-directional networking at up to 100Mb/sec to control and search from the sink. (Please see section 10 for diagram illustration).

Note:1. Be sure to connect devices with one of the new cables designed to support HDMI Ethernet Channel functionality, either the standard HDMI cable with Ethernet or High Speed HDMI cable with Ethernet.

2. When the HDMI output with the Audio and ARC are exist at the same time the ARC will be the first priority to access.

③. HDMI input 1~4: Connect to HDMI or DVI sources equipment such as DVD player or set-top-box for input video and audio sending.

Note: A. This system was tesetd with 24AWG cables if using cables of another type, the performance of this system many be different.

B. Cable distance tested with a PS3 & 40" Samsung LED UA40B700 12-bit LCD TV.

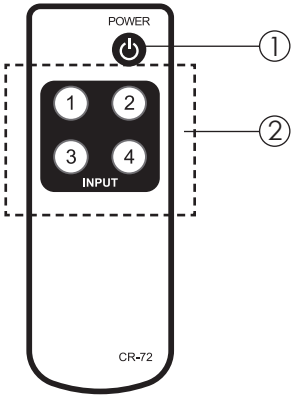
C. Figures provided in this manual are for reference only, actual figures may depend on the source and display used along with the cables specifications.

④. Power: Plug the DC 5V power supply into the splitter and connect the adaptor to AC wall outlet.

8. Remote Control

① Power button: Press to switch On the device, press it again to set the device in standby mode.

② 1~4: Press the desire input button to select the input source.



9. RS-232 Protocol

9.1 Pin Definition

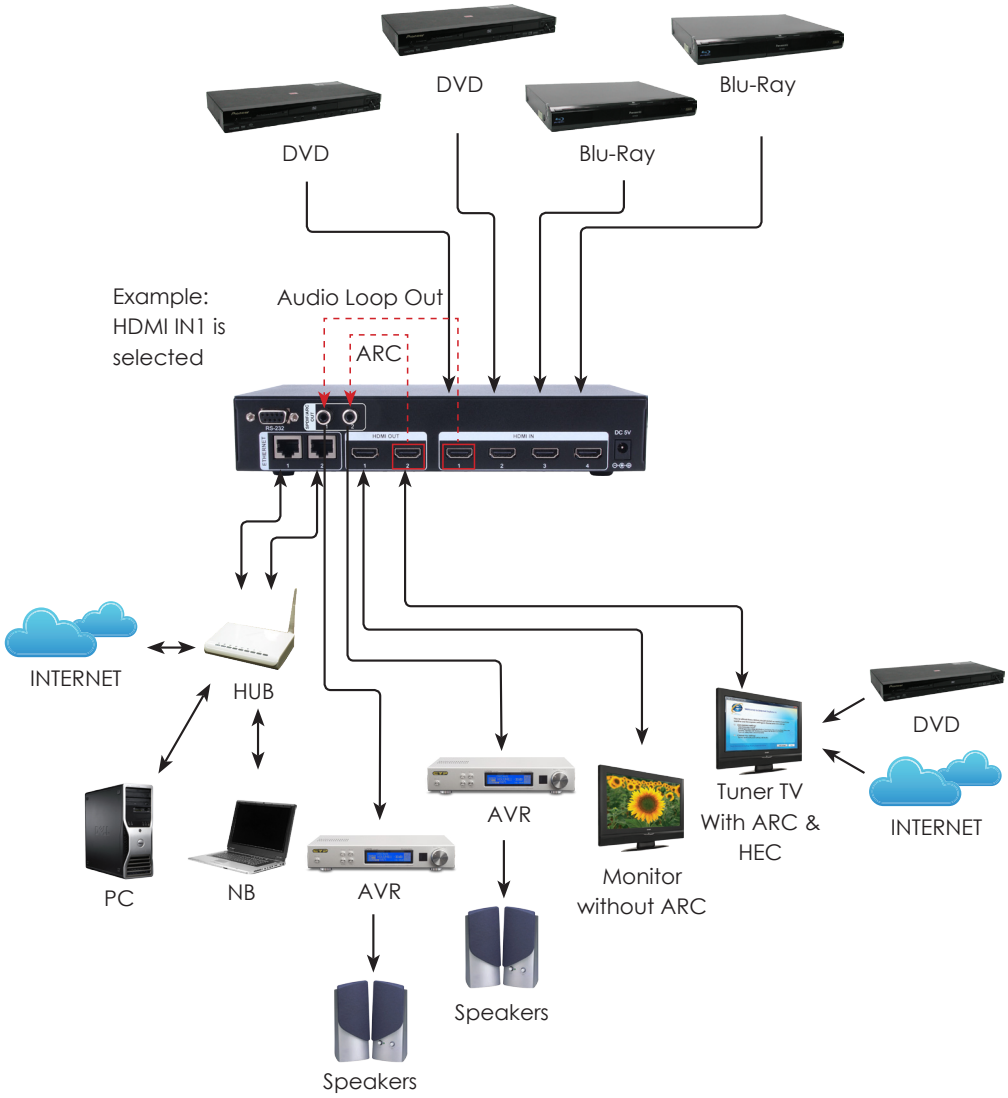
CPRO-3D42S			Remote Control Console	
PIN	Definition		PIN	Definition
1	NC		1	NC
2	Tx		2	Rx
3	Rx		3	Tx
4	NC	►	4	NC
5	GND	◄	5	GND
6	NC		6	NC
7	NC		7	NC
8	NC		8	NC
9	NC		9	NC

Baud Rate: 9600bps
Data bit: 8bits
Parity: None
Stop bit: 1 bit
Flow Control: None

9.2 Command

Command	Action
POWER 00	Power Off (standby)
POWER 01	Power On
PORT 11	Output Select Input 1
PORT 12	Output Select Input 2
PORT 13	Output Select Input 3
PORT 14	Output Select Input 4
PORT 00	No Input Selection (for ARC)

10. Connection and Installation



Acronyms

A

Acronym	Complete Term
ARC	Audio Return Channel
CEC	Consumer Electronics Control
EDID	Extended Display Identification Data
HEAC	HDMI Ethernet & Audio Return Channel
HEC	HDMI Ethernet Channel
HDCP	High-bandwidth Digital content protection
HDMI	High-Definition Multimedia Interface

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